

**Notice of Allowability**

Application No.

10/827,335

Examiner

George Nguyen

Applicant(s)

MIZUTANI ET AL.

Art Unit

3723

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendment filed on July 12, 2005.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 04/22/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
GEORGE NGUYEN  
PRIMARY EXAMINER

Art Unit: 3723

**REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance: the specific limitations of "a grinding fluid supply-nozzle ... smaller than a right angle" in the combination as claimed in claim 1, and "a grinding fluid supply-nozzle ... smaller than a right angle" in the combination as claimed in claim 6 are not anticipated nor made obvious by the prior art of record in the examiner's opinion. For example, Hykes' 5,833,523 discloses a variable volume coolant system for delivering liquid coolant to the interface defined between a machine tool and a workpiece to be abraded to a desired size and curvature. In col. 3, lines 1-2, Hykes discloses that the opposite ends of the shaft 20 of the workpiece are inserted into, and grasped by the chucks, so that the eccentric surfaces 22 of the workpiece are retained in fixed position during machining operation.

3  
surfaces 22 of the workpiece are retained in fixed position during machining operations.

Machine 10 also includes a drive motor 24, and a shaft and lead screw drive mechanism 26 for advancing wheel head carriage 28, along pad 30. Axle 32 of grinding wheel 34, which may be made of CBN or similar abrasive materials, is secured to carriage 28. Motor 24, when energized, advances, or retracts, wheel head carriage 28 in the longitudinal direction, so that wheel 34 can grind the eccentric surfaces 22 of the workpiece to the desired size and shape. Motor 36, via endless belt 38, delivers the motive power to wheel 34, for precise, high speed grinding, after the carriage 28 has been advanced to the proper position.

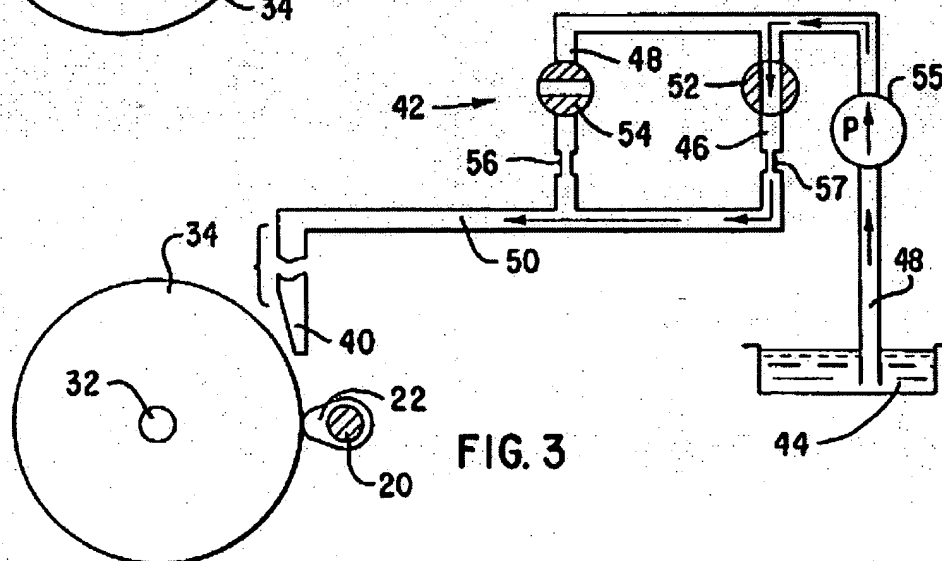
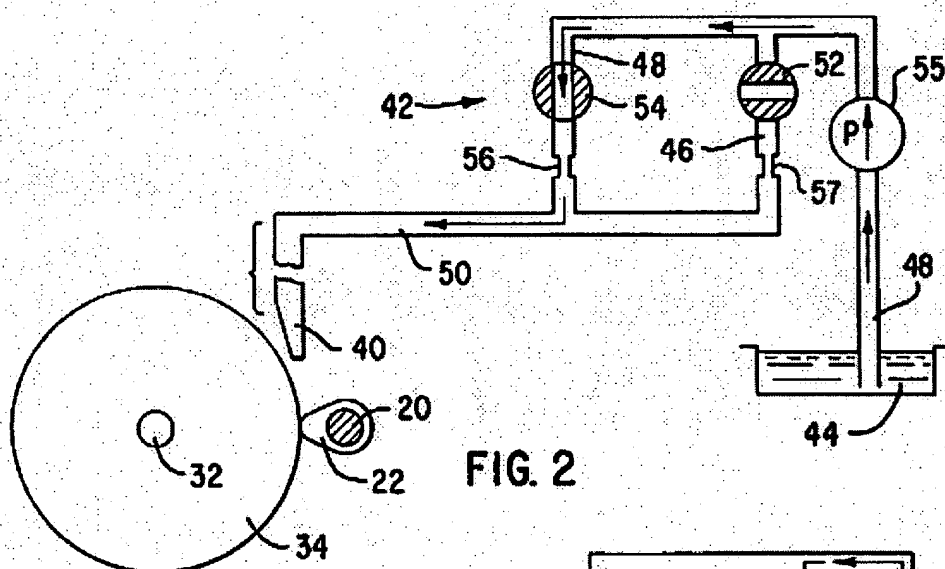
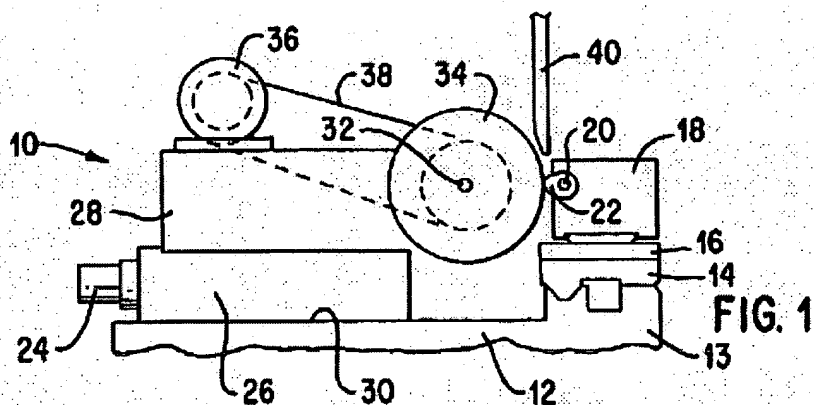
Nozzle 40 is positioned above the point of contact for the grinding wheel and the workpiece. The nozzle delivers liquid coolant, usually a water based fluid or oil, to the grinding wheel and to the workpiece, in order to cool same, and to wash away debris, commonly known as "swarf."

FIG. 2 and FIG. 3 show, in a schematic manner, the flow control system 42 for delivering a variable volume of coolant to nozzle 40 for discharge. The flow control system includes a reservoir 44, or other common pressure source, connected to conduits 46, 48 that lead into common pipe 50 that terminates in nozzle 40. A first valve 52 is situated in conduit 46, while a second valve 54 is situated in conduit 48. Flow restricting components, such as restrictor 56 in line 48, are connected in series with valve 54.

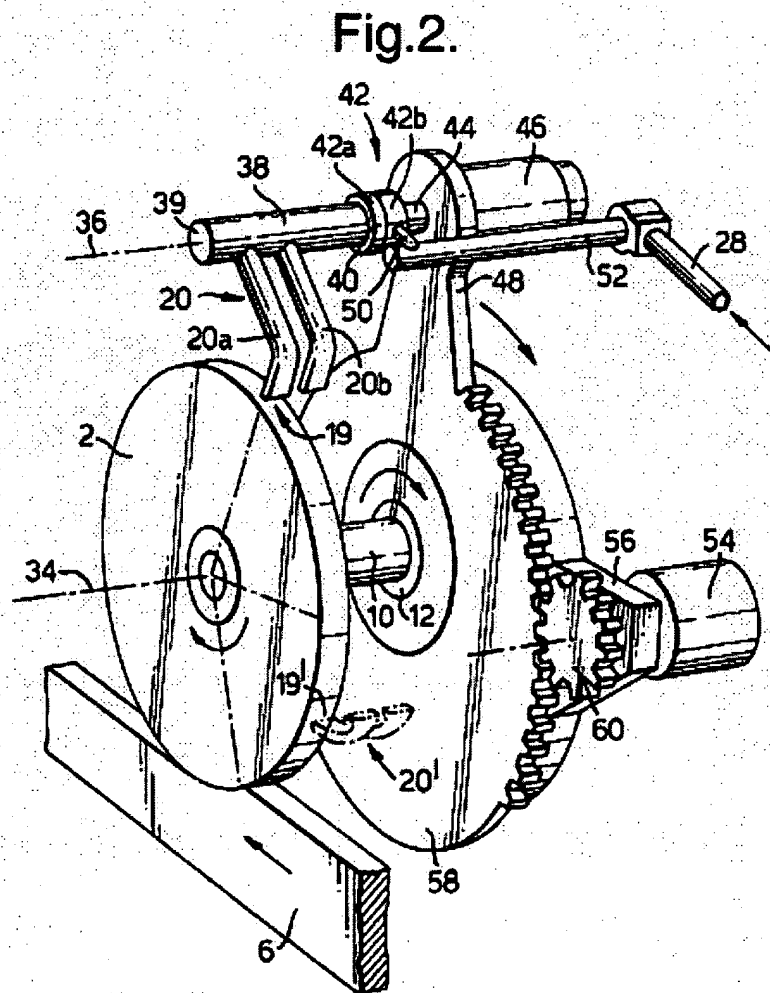
U.S. Patent

Nov. 10, 1998

5,833,523



With reference to Figure 2, col. 2, line 63 to col. 3, line 34, Hill et al.'6,123,606 discloses a jet **18** of liquid coolant is directed through nozzle means **20** at an aiming point **19** on the periphery of wheel **2**. The nozzle **20** is positioned close to the periphery of the wheel **2** to deliver the very high pressure of jet **18** at the wheel in a substantially radial direction to the wheel circumference at a point approximately 45° in advance of the cutting region on workpiece **6**.



Art Unit: 3723

However, the prior art of record fails to provide or suggest the specific limitations of “a grinding fluid supply-nozzle ... smaller than a right angle” in the combination as claimed in claim 1, and “a grinding fluid supply-nozzle ... smaller than a right angle” in the combination as claimed in claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

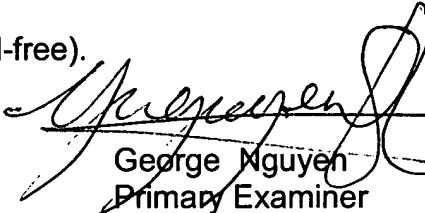
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Nguyen whose telephone number is 571-272-4491. The examiner can normally be reached on Monday-Friday/630AM-300PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*George Nguyen*  
*Primary Examiner*



George Nguyen  
Primary Examiner  
Art Unit 3723

GN – October 13, 2005